



THE UNIVERSITY *of* EDINBURGH

## Edinburgh Research Explorer

### Improving care for people with asthma:

**Citation for published version:**

McDonnell, J, Williams, S, Ryan, D, Pinnock, H & de Sousa, JC 2018, 'Improving care for people with asthma: building capacity across a European network of primary care organisations - the IPCRG's Teach the Teacher Programme', *Journal of Global Health Reports*. <https://doi.org/10.29392/joghr.2.e2018060>

**Digital Object Identifier (DOI):**

[10.29392/joghr.2.e2018060](https://doi.org/10.29392/joghr.2.e2018060)

**Link:**

[Link to publication record in Edinburgh Research Explorer](#)

**Document Version:**

Publisher's PDF, also known as Version of record

**Published In:**

Journal of Global Health Reports

**General rights**

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

**Take down policy**

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact [openaccess@ed.ac.uk](mailto:openaccess@ed.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.



# Improving care for people with asthma: building capacity across a European network of primary care organisations – the IPCRG’s Teach the Teacher Programme

Juliet McDonnell<sup>1</sup>, Siân Williams<sup>2</sup>, Dermot Ryan<sup>3</sup>, Hilary Pinnock<sup>3</sup>, Jaime Correia de Sousa<sup>4</sup>

**Background** The International Primary Care Respiratory Group (IPCRG) is a global network of organisations committed to improving assessment/treatment of chronic respiratory disease (CRD) in primary care. As a charity IPCRG supports improvements in health systems within member countries by disseminating research evidence and offering evidence-based resources, such as the U-BIOPRED (Unbiased BIOMarkers in PREdiction of respiratory disease outcomes) research into different phenotypes of asthma and IPCRGs desktop helper – which is short practical guidance distilled from the evidence on structured asthma review – termed “SIMPLES”.

**Methods** We ran a pilot educational programme – called “Teach the Teacher: Difficult to Manage Asthma” designed to build capacity for teaching knowledge and skills in asthma management to primary healthcare workers in eight member countries. We used a cascade approach, which allowed for adaptation to local contexts to address local challenges, overcome barriers and optimise facilitators within various political, financial and healthcare systems. We explored impact using an educational evaluation framework.

**Results** Seven in-country programmes were delivered within project timescales March – December 2015. An important feature of the programme level evaluation shows considerable variation in the design and focus of in-country events. Over 230 health professionals participated in these educational events in seven countries, including specialist nurses, physiotherapists, general practitioners (GP), early career GPs, and GPs with a special interest in respiratory disease. Findings from a survey of in-country leads showed the importance of local needs assessment to ensure it was responsive to local social and healthcare context and allowed local variation and needs to be highlighted. Needs assessment also engaged the potential audience and ensured their buy-in to the programme at an early stage. Evidence based resources were adapted to different contexts which allowed them to be integrated to the routine training of primary care clinicians thus ensuring sustainability.

<sup>1</sup>IPCRG, London, UK

<sup>2</sup>IPCRG, London, UK

<sup>3</sup>Usher Institute of Population Health Sciences and Informatics, University of Edinburgh, Edinburgh, UK

<sup>4</sup>Usher Institute of Population Health Sciences and Informatics, University of Edinburgh, Edinburgh, UK

<sup>5</sup>School of Medicine, Minho University, Braga, Portugal

**Cite as:** McDonnell J, Williams S, Ryan D, Pinnock H, Correia de Sousa J. Improving care for people with asthma: building capacity across a European network of primary care organisations – the IPCRG’s Teach the Teacher Programme. *J Glob Health Rep* 2018; 2: e2018026

## CORRESPONDENCE TO:

Juliet McDonnell | IPCRG, PO Box 11961 | Westhill | Aberdeen | AB32 9AE, UK  
juliet.mcdonnell@virgin.net

**Conclusions** Variation in the design and focus of in-country events was crucial to local implementation. Teams encountered, and found local solutions for, challenges in assessing learning needs, setting up education programmes and in supporting clinical practice change. Project funding enabled national programmes, but sustainability will require additional resource and a longer-term strategy.

The global health agenda identifies non-communicable diseases, including asthma, as a key priority area for improvement in care and outcomes. Despite effective treatments and guideline recommendations supporting careful diagnosis and good patient care, a significant proportion of the estimated 235 million people globally with asthma (1), live with on-going symptoms and there are nearly 250,000 deaths each year (2, 3). This is the equivalent of 10 jumbo jets crashing every week of the year causing the deaths of nearly 700 people on board each time (4). Most of this burden of disease is avoidable with proactive, evidence-based care. A systematic approach to identifying poor asthma control and addressing the problems that make asthma “difficult to manage” is within the capabilities of a trained and activated primary care system (4).

The International Primary Care Respiratory Group (IPCRG) is a network of national organisations committed to improving assessment and treatment of those common chronic respiratory diseases (CRD) managed predominantly in primary care. A key principle of the network is “working locally, collaborating globally to improve respiratory health in primary care” (5). In line with the 2010 Lancet Commission on Education, we believe we have a role in extending academic learning into communities, developing global collaborative networks for mutual strengthening, and leading in the promotion of a culture of critical inquiry and public reasoning (6) about the best ways to deliver effective respiratory care. As a charity, IPCRG supports improvements in health systems within member countries by distilling and disseminating research evidence.

A recent example is a “Teach the Teacher” programme to promote the findings from U-BIOPRED (Unbiased BIOMarkers in PREdiction of respiratory disease outcomes) research into different phenotypes of asthma (7) by the dissemination of short practical guidance distilled from the evidence on a structured asthma review (Table 1) contained in a desktop helper on difficult to manage asthma (8, 9).

**Table 1.** SIMPLES – short practical guidance on how to conduct a structured asthma review in primary care (9)

Smoking status
Inhaler technique
Monitoring
Pharmacotherapy
Lifestyle
Education
Support

“Difficult-to-manage” asthma describes a condition that either the person affected or the clinician finds challenging. This includes people:

- who – for various reasons – don’t or can’t take their treatment as recommended
- with other conditions affecting their asthma, including allergy, other diseases and psychosocial factors
- those misdiagnosed with asthma, for example recent studies have raised concerns that up to a third of patients diagnosed (and treated for) with asthma do not have a robust diagnosis (10).

- with severe asthma, which remains uncontrolled, despite best treatment. This is a minority of people with 'difficult to control' asthma in whom less common phenotypes, co-morbidity or complications mean that they will benefit from specialist care.

One approach to building capacity in primary care highlighted in the IPCRG's education strategy (11) is a model called "Teach the Teacher" (TtT). This is an educational intervention which seeks to develop capacity for teaching subject-specific knowledge and skills through a cascade approach. It supports adaptation to local contexts in order to address challenges faced by local teams, overcome barriers and optimise facilitators within the political, financial and healthcare systems. Evaluation of the impact of TtT interventions requires a multilevel approach.

## METHODS

In January 2015, we launched a TtT: "Difficult to Manage Asthma" programme. We convened an expert faculty, including professionals with clinical and educational expertise, and patient representation from the European Federation of Asthma and Airways Diseases Patients Associations (EFA). We brought together two clinical colleagues from each of eight European countries (Romania, Greece, Turkey, Ireland, Italy, Netherlands, UK and Portugal) to develop their skills in teaching primary care peers and then to design educational programmes within their own country adapted to local health systems and needs. Romania and Turkey are categorised as upper-middle-income countries, the remainder are high-income economies, but all are working within financial constraints that require better outcomes for the same level of resource.

Our aim was to build a trusted network of in-country teachers with the knowledge, influence, communication and teaching skills to deliver effective workshops to adult learners, which was relevant to the local context and which could be embedded in local primary care practice and cross sector healthcare pathways. We emphasised both subject specific knowledge (U-BIOPRED /difficult to manage asthma) and teaching skills, including facilitating learning, teaching methods, and programme design. We wanted our colleagues to think about what they were teaching but also the process of learning and change. Each country delegation were given the task of developing a local training programme on "difficult to manage" asthma, which was supported by on-going access to the TtT faculty and a small budget. We explored impact using an adapted professional development/educational evaluation framework (12) informed by: i) participant reactions, ii) participant learning, iii) organisational support and change, iv) use of new knowledge and skills, v) impact on participants, practice and service users. The framework was selected because it is simple and has good face validity. It is based on the educational evaluation work of Kirkpatrick (13) – which, although developed in a business context, has been used in the context of medical education (14). In the context of a TtT initiative, the evaluation has to be applied at both the initial programme training and in-country project level.

## RESULTS

The TtT meeting was attended by 16 clinicians (13 general practitioners, 2 secondary care colleagues and 1 specialist nurse). The programme was facilitated by a faculty of three primary care respiratory specialists (HP, DR, JCS) working with an educationalist (JMcD);, we also involved a patient representative (EFA) (15).

### Programme level evaluation

At programme level we had strong 'positive participant reaction' following the event, captured by post-workshop questionnaires (response rate 15/15). The workshop was rated highly by all participants, with overall scores of 4 or 5 (where 5 was 'excellent'). We had excellent

engagement throughout the programme, with evidence of “participant learning”, “use of new knowledge” and ‘organisational change’ in the form of seven written proposals planned at the event and subsequently submitted to the expert faculty for approval. These proposals covered the plans for national/local events and plans for evaluation; evaluation strategies were discussed at the workshop, although we did not impose any standardised evaluation methods. At the end of the project we conducted an online/email survey of the eight country leads. Seven in-country programmes were delivered within project timescales March - December 2015. An important feature of the programme level evaluation shows considerable variation in the design and focus of in-country events.

- 1) Four countries (Italy, Turkey, UK, Greece) opted for focused educational event(s); one was a multi professional meeting, one focused on early career doctors, two held events in different regional locations.
- 2) Three countries (Netherlands, Portugal, Romania) opted for a cascade approach – training an in-country faculty with the purpose of rolling out regional events.
- 3) One country, Ireland, has yet to run a programme.

Over 230 health professionals participated in these educational events in seven countries, including specialist nurses, physiotherapists, general practitioners (GP), early career GPs, and GPs with a special interest in respiratory disease.

## In-country programme level evaluation

Findings from the survey of in-country leads showed the importance of local needs assessment and adaptation.

### Local needs assessment

This involved thinking about the audience and not assuming the teaching faculty knew what it was they need to learn. This was completed in some country programmes using methods such as questionnaires, interviews or email correspondence. This groundwork was felt to be important as it allowed adaptation of the educational event so that it was responsive to local social and healthcare context and allowed local variation and needs to be highlighted. An additional benefit of the needs assessment was that it engaged the potential audience and ensured their buy-in to the programme at an early stage (unpublished communications, JMcD).

### Local adaptation

in the Netherlands, colleagues conducted a three-round Delphi exercise with all of their stakeholders to adapt and agree the learning material and approach (16). This led to the adaptation of SIMPLES, an acronym that does not work in all languages, to the Alphabet – “A-I of difficult-to-manage asthma” which resonated with an established Dutch “A-E” acronym for determining asthma control (Table 2). Crucially, this approach ensured that the programme was ultimately adopted into the routine training of primary care clinicians thus ensuring sustainability (unpublished communication, JMcD) (16).

**Table 2.** The Alphabet A-I – adaptation of a difficult-to-manage asthma programme for implementation in the Dutch context (16)

A	Asthma (Dutch: Astma). Is it asthma, what type of asthma and is it only asthma?
B	Bronchial triggers (Blootstelling). Allergens and irritants causing symptoms
C	Asthma control (Controle). How to assess and monitor asthma control
D	Device (Device). Which device and how to use it?
E	Exacerbations (Exacerbaties). How to prevent, detect and treat exacerbations
F	Pharmacotherapy (Farmacotherapie). Which types of medication for which individual patient
G	General behaviour (Gedrag). How does behaviour and lifestyle influence asthma and how to modify it
H	Help (Hulp). Strengthen the knowledge and determine who can aid a patient in disease management
I	Individualised care plan (Individueel Zorg Plan). How to create and use a self-management plan for each individual patient

More generally, the evidence provided from in-country programmes which evaluated ‘participant learning’ – tended to be short term and derived from pre- and post-workshop questionnaires which test knowledge but do not assess changes in clinical practice. In the survey of in-country leads we asked about organisational context which may have helped or hindered the in-country intervention. A strong educational intervention may be hindered by organisational factors. Results included logistics/geography, different systems in primary care, lack of incentives and/or finance (unpublished communications, JMcD). It was difficult to evaluate participants’ use of new skills and knowledge from in-country programmes. Similarly evidence of impact on participants, practice and service users is difficult to assess (unpublished communications, JMcD). We concluded that it may be too early to assess this factor especially in view of the small scale of the intervention, the lack of predetermined outcome measures coupled with the complexity of data collection and reconciliation across different healthcare systems.

## DISCUSSION

The cascade TtT model is an affordable method for delivering specific education from a central source of knowledge to learners at a local level (eg, healthcare professionals) through multiple layers or programmes. This model is commonly used for in-service training in various professional environments, and has been shown to rapidly build knowledge and skills in healthcare settings (17). However, despite its perceived advantages, a key question relates to whether core educational messages become diluted or are misinterpreted through repeated cycles involving multiple teachers. This question of ‘fidelity’ has also been explored in the context of implementation science relating to evidence based interventions for improvement (18). Stirman et al suggest that modifications may enhance or may compromise proposed interventions outcomes (18). The IPCRG’s TtT model uses the principles of cascade but actively encourages adaption to local contexts in order to promote adoption in different health systems. Understanding the rationale and quantifying the adaptation are of interest as advocated by Stirman et al (18). Examples include who makes the modification; what was modified; at what level; what is the nature of the context modification; what is the nature of the content modification?

We believe a further important consideration relates to the leadership of the educational programme. While the research and evidence base underlying any educational or service improvement is important, it is also important to select teachers or leaders who are trusted and respected by colleagues – and in this case knowledgeable and committed to respiratory and primary care. Researchers or hospital-based clinicians may be able to cite the evidence, but they may not have direct experience of the community based professional context of the people they are teaching.

This evaluation helped us understand the challenges of local implementation. We know that over 230 health professionals took part in educational events in seven countries; that there was variation in the design and focus of in-country events. We know that teams encountered various challenges in assessing learning needs, setting up education programmes and in supporting clinical practice change. We conclude that evidence for clinical practice change is harder to achieve without additional local resources and a longer-term strategy. It is evident that some of our partners in this project had a longer-term strategy while others did not (unpublished communication, JMcD) (16).

## CONCLUSIONS

The partnership between IPCRG and colleagues in European primary care organisations supported the promotion of a strategy to address “difficult to manage asthma” by increasing the capacity to teach in primary care settings and selecting appropriate and welcomed content. We developed a network of colleagues who can work on other programmes. With an established network of teachers we can now explore the potential for working in different ways eg, e-learning or virtual programmes which may require a different skill set.



**Acknowledgements:** We would like to acknowledge our collaborators, the Teach the Teacher Faculty, including colleagues at the European Federation of Asthma and Airways Diseases Patients Associations and the first cohort of in-country Teachers.

**Funding:** An educational grant was provided by The European programme U-BIOPRED and the education programme included an update on the findings of U-BIOPRED on severe asthma. The funder had no role in the education programme design, evaluation, data collection, data analysis, or write-up of the paper.

**Authorship declaration:** DR, HP and JcDS, SW and JMcD designed and led the educational intervention. JMcD was the lead for evaluation and gathered evaluation material from in country leads including analyzing the evaluation reports. JMcD drafted the article and DR, SW, HP, JdS critiqued the article drafts. Comments were discussed collectively by all authors were used to redraft the article. The final version has been approved by all authors.

**Competing interests:** The authors completed the Unified Competing Interest form at [www.icmje.org/coi\\_disclosure.pdf](http://www.icmje.org/coi_disclosure.pdf) (available upon request from the corresponding author), and declare no conflict of interest.

## REFERENCES

1. World Health Organization. Asthma. Fact Sheet 307. 2013. Available: <http://www.who.int/mediacentre/factsheets/fs307/en/>. Accessed: 27 February 2017.
2. Alwan A, Ross A, Resnikoff S, Mendis S, Cruz AA, Minelli E. Action Plan of the Global Alliance against Chronic Respiratory Diseases. 2008–2012. Geneva. World Health Organization. 2008. Available: [http://www.who.int/gard/publications/GARD\\_actionplan\\_FINAL.pdf](http://www.who.int/gard/publications/GARD_actionplan_FINAL.pdf). Accessed: 27 February 2017.
3. World Health Organization. A comprehensive global monitoring framework including indicators and a set of voluntary global targets for the prevention and control of non-communicable diseases. Second WHO discussion paper. 22 March 2012. Available: [http://www.who.int/nmh/events/2012/discussion\\_paper2\\_20120322.pdf](http://www.who.int/nmh/events/2012/discussion_paper2_20120322.pdf). Accessed: 27 February 2017.
4. IPCRG Position paper No 3. March 2013. Ten easy steps to defeat difficult to manage asthma. Available: <http://www.theipcr.org/display/TreatP/Difficult+to+manage+asthma+-+Position+Paper>. Accessed: 27 February 2017.
5. International Primary Care Respiratory Group (IPCRG). Available: <http://www.theipcr.org/display/HOME/Welcome+to+the+International+Primary+Care+Respiratory+Group>. Accessed: 27 February 2017.
6. Frenk J, Chen L, Bhutta ZA, Cohen J, Crisp N, Evans T, et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet*. 2010;376:1923–58. *PubMed* [https://doi.org/10.1016/S0140-6736\(10\)61854-5](https://doi.org/10.1016/S0140-6736(10)61854-5)
7. UBIOPRED. Available: <http://www.europeanlung.org/en/projects-and-research/projects/u-biopred/what-is-the-project/>. Accessed: 27 February 2017.
8. IPCRG Desktop helper No2. Improving the care of adults with difficult to manage asthma: a practical guide for primary healthcare professionals. April 2012. Available: <http://www.theipcr.org/display/TreatP/Home+-+Difficult+to+manage+asthma>. Accessed: 27 February 2017.
9. Ryan D, Murphy A, Stållberg B, Baxter N, Heaney LG. 'SIMPLES': a structured primary care approach to adults with difficult asthma. *Prim Care Respir J*. 2013;22:365–73. *PubMed* <https://doi.org/10.4104/pcrj.2013.00075>
10. Aaron SD, Vandemheen KL, FitzGerald JM, Ainslie M, Gupta S, Lemière C, et al. Re-evaluation of diagnosis in adults with physician-diagnosed asthma. *JAMA*. 2017;317:269–79. *PubMed* <https://doi.org/10.1001/jama.2016.19627>
11. McDonnell J, Correia de Sousa J, Baxter N, Pinnock H, Román-Rodríguez M, van der Molen T, et al. Building capacity to improve respiratory care: the education strategy of the International Primary Care Respiratory Group 2014–2020. *NPJ Prim Care Respir Med*. 2014;24:14072. *PubMed* <https://doi.org/10.1038/npjpcrm.2014.72>
12. Guskey T. Evaluating Professional Development. Thousand Oaks California: Corwin Press; 2002.
13. Kirkpatrick DL, Kirkpatrick JD. Implementing the Four Levels. San Francisco, CA: Berrett-Koehler Publishers, Inc; 2017.
14. Wall D. Evaluation: improving practice, influencing policy. In Swanwick, T. Understanding Medical Education: Evidence, Theory and Practice. Association for the Study of Medical Education. Oxford: Wiley Blackwell; 2010.

15. UBIOPRED – Primary Care Training Day January 2015. Available: <http://www.europeanlung.org/en/projects-and-research/projects/u-biopred/news-and-events/news/ubiopred-primary-care-training-day>. Accessed: 27 February 2017.
16. Honkoop PJ, Pinnock H, Kievits-Smeets RMM, Sterk PJ, Dekhuijzen PNR. in 't Veen J CMM. Adaptation of a difficult-to-manage asthma programme for implementation in the Dutch context: a modified e-Delphi. *Primary Care Respiratory Medicine*. 2017;27:16086.
17. Eardley W, Bowley D, Hunt P, Round J, Tarmey N, Williams A. Education and Ebola: initiating the cascade of emergency healthcare training. *J R Army Med Corps*. 2016;162:203–6. *PubMed* <https://doi.org/10.1136/jramc-2014-000394>
18. Shannon Wiltsey Stirman. Christopher J Miller, Katherine Toder, Amber Calloway. Development of a framework and coding system for modifications and adaptations of evidence-based interventions. *Implementation Science*. 2013; 8:65. Available: <http://www.implementationscience.com/content/8/1/65>. Accessed: 27 February 2017.